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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,333	03/24/2005	Kenya Takagawa	81864.0057	8882

26021 7590 04/08/2008

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EXAMINER	
KOSLOW, CAROL M	
ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
04/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,333	TAKAGAWA ET AL.	
	Examiner	Art Unit	
	C. Melissa Koslow	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *20 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *6-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-5,11-13 and 17-26* is/are rejected.

7)☒ Claim(s) *2 and 14-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/15/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Applicant's election without traverse of Group I, claims 1-5 and 11-26 in the reply filed on 20 February 2008 is acknowledged.

Claims 6-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse.

The references cited in information disclosure statement of 15 January 2008 have been considered with respect to the provided English abstracts.

The disclosure is objected to because of the following informalities: On page 13, line 21, "a + b + C + d + e + f = 3" should be "a + b + c + d + e + f = 3". On pages 14 and 21, "In_2O_5" and "Ga_2O_5" should be "In_2O_3" and "Ga_2O_3". Applicants uses the closed terminology "the balance substantially being MnO" which excludes any other component which materially affects the ferrite from being present, but then teaches the ferrite can further comprise NiO or $LiO_{0.5}$. This wording issue needs to be clarified. Appropriate correction is required.

Claims 22 and 24 are objected to because of the following informalities: In claim 2, "a + b + C + d + e + f = 3" should be "a + b + c + d + e + f = 3". In claim 24, "In_2O_5" and "Ga_2O_5" should be "In_2O_3" and "Ga_2O_3". Appropriate correction is required.

Claims 11, 20 and 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11, 20, 22 and 23 are indefinite since the wording "MnO substantially constituting the balance" defining the ferrite composition in claim 1 and 17 is equivalent to "consisting terminology" in that it excludes any other component which materially affects the

ferrite from being present, but claims 11, 20, 22 and 23 teach the ferrite can further comprise NiO or $LiO_{0.5}$. Thus it is unclear if the ferrite consists of Mn, Zn, Fe and O as claimed in claims 1 and 17 or the ferrite comprises Mn, Zn, Fe and O as indicated by claims 11, 20, 22 and 23. Claims 24-26 are indefinite since they term the claimed additives as the second, third and fourth additives in the ferrite material of claim 17, but claim 17 does not teach any additives. It appears claim 24 should depend from claim 18, which teaches a first additive; claim 25 should depend from claim 24 and claim 26 should depend from claim 26.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 17-22 and 24-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 5 and 7-16 of copending Application No. 10/526,427. Although the conflicting claims are not identical, they are not

patentably distinct from each other because the ferrite material claimed in the copending composition has a composition and properties that overlap those claimed in this application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-5, 12, 13, 17, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 2,924,573 in view of U.S. patents 5,698,145; 5,846,448; 6,576,169 and 6,752,932.

U.S. patent 2,924,573 teaches forming a Mn-Zn ferrite material comprising as main constituents 35-65 mol% Fe_2O_3, 10-25 mol% ZnO and 25-40 mol% MnO by compacting the ferrite powder, sintering the compact in nitrogen or in a nitrogen atmosphere having a partial pressure of oxygen of less than 0.1%, which is known in the art to include heating the compact in a furnace having the desired atmosphere and holding it the desired sintering temperature in the desired atmosphere and cooling the sintered compact at 100-300°C/hr in nitrogen or in a nitrogen atmosphere having a partial pressure of oxygen of less than 0.1%. The taught composition of the ferrite and the taught cooling rate overlap that claimed. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). The

reference teaches heating and cooling in the claimed atmospheres. U.S. patent 2,924,573 is silent as to milling the calcined ferrite and is silent as to the particle size of the calcined ferrite before the taught compacting step. U.S. patents 5,698,145; 5,846,448; 6,576,169 and 6,752,932 all teach that at the time of invention that the powders used to form Mn-Zn ferrite sintered articles should conventionally have an average particle in the range of 1-3 microns and that the calcined material is milled so as to have an average size in this range. Therefore, one of ordinary skill in the art would have found it obvious to mill the calcined powder of U.S. patent 2,924,573 so that the average particle size is within the range of 1-3 microns. This average size range falls within the claimed 90% size range and the specific surface area of particles having an average size in the range of 1-3 microns would be expected to fall within the claimed range, absent any showing to the contrary. Since the taught ferrite composition overlaps that claimed and the process conditions overlap that claimed, one of ordinary skill in the art would expect that the resulting sintered ferrite would have a core loss, volume resistivity, saturation magnetic flux density and core loss change rate that at least overlaps the claimed ranges. The references suggest the claimed process and material.

Claims 1, 3, 4, 11-13, 17, 20-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-159523 in view of U.S. patents 5,698,145; 5,846,448; 6,576,169 and 6,752,932.

The translation for JP 2000-159523 teaches forming a Mn-Zn ferrite material comprising as main constituents 60-70 mol% Fe_2O_3, greater than 0 up to 20 mol% ZnO, 0 to less than 5 mol% of NiO or $LiO_{0.5}$ and the balance is MnO by forming a ferrite powder by milling the ferrite, compacting the ferrite powder and sintering the compact in an atmosphere comprising 1%

of a partial pressure of oxygen, which is known in the art to include heating the compact in a furnace having the desired atmosphere and holding it the desired sintering temperature in the desired atmosphere. The reference teaches the material can and additive of 250 ppm niobium pentaoxide and 50 ppm tantalum pentaoxide or less than 2000 ppm of an additive selected from the group consisting of at least one of oxides of Nb, Zr, Ta, V and Bi. The taught amount of additives fall within or overlaps the claimed amounts of additive. The ferrite composition also overlaps that claimed. JP 2000-159523 is silent as to the particle size of the calcined ferrite before the taught compacting step. U.S. patents 5,698,145; 5,846,448; 6,576,169 and 6,752,932 all teach that at the time of invention that the powders used to form Mn-Zn ferrite sintered articles should conventionally have an average particle in the range of 1-3 microns and that the calcined material is milled so as to have an average size in this range. Therefore, one of ordinary skill in the art would have found it obvious to mill the calcined powder of JP 2000-159523 so that the average particle size is within the range of 1-3 microns. This average size range falls within the claimed 90% size range and the specific surface area of particles having an average size in the range of 1-3 microns would be expected to fall within the claimed range, absent any showing to the contrary. Since the taught ferrite composition overlaps that claimed and the process conditions overlap that claimed, one of ordinary skill in the art would expect that the resulting sintered ferrite would have a core loss, volume resistivity, saturation magnetic flux density and core loss change rate that at least overlaps the claimed ranges. The references suggest the claimed process and material.

Claims 2 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

There is no teaching or suggestion in the cited art of record of the claimed process where the Zn-Mn ferrite powder, having the claimed composition, has a specific surface area in a range between 2.5-5 m^2/g, 90% particle size in the range of 10 microns or less, a 50% particle size in the range of 0.8-1.8 microns and a 10% particle size in the range of 0.55-0.73 micron. There is no teaching or suggestion in the cited art of record of the claimed process of claims 14-16. There is no question or teaching in the art to include a screen in the taught processes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/cmk/
April 7, 2008

/C. Melissa Koslow/
Primary Examiner
Art Unit 1793